State Water Resources Control Board

DRAFT
REVIEW SUMMARY REPORT – ADDITIONAL WORK
PRELIMINARY REVIEW – MARCH 2014

Agency Information

Agency Name: Los Angeles Regional Water Quality Control Board (Regional Water Board)	Address: 320 West 4th Street, Suite 200 Los Angeles, CA 90013
Agency Caseworker: David Bjostad	Case No.: R-16759

Case Information

USTCF Claim No.: 19222	GeoTracker Global ID: T0603713873
Site Name: El Rodeo School	Site Address: 605 North Whittier Road Beverly Hills, CA 90210
Responsible Party: Beverly Hills Unified Attn: Alex Cherniss	Address: 255 South Lasky Drive Beverly Hills, CA 90212
USTCF Expenditures to Date: $545,863	Number of Years Case Open: 6

URL: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0603713873

Summary

The Low-Threat Underground Storage Tank (UST) Case Closure Policy (Policy) contains general and media-specific criteria, and cases that meet those criteria are appropriate for closure pursuant to the Policy. This case does not meet all of the required criteria of the Policy. A summary evaluation of compliance with the Policy is shown in **Attachment 1: Compliance with State Water Board Policies and State Law**. The Conceptual Site Model upon which the evaluation of the case has been made is described in **Attachment 2: Summary of Basic Case Information (Conceptual Site Model).** Highlights of the case follow:

This case is located on the west portion of the El Rodeo School. An unauthorized release was reported in February 2007 following the removal of one diesel UST. A closed-in-place fuel oil UST was later removed in July 2008. Approximately 750 tons of impacted soil were excavated and disposed offsite during the 2008 UST removal. Since 2008, nine groundwater monitoring wells have been installed and irregularly monitored. According to groundwater data, water quality objectives have been achieved or nearly achieved for all constituents, and recoverable free product remains in one source area monitoring well. Free product removal has been conducted at the Site in several monitoring and recovery wells since May 2010.

The petroleum release is limited to the soil and shallow groundwater. According to data available in GeoTracker, there are no supply wells regulated by the California Department of Public Health or surface water bodies within 1,000 feet of the defined plume boundary. No other water supply wells have been identified within 1,000 feet of the defined plume boundary in files reviewed. Water is provided to water users near the Site by the City of Beverly Hills. The affected groundwater is not currently being used as a source of drinking water, and it is highly unlikely that the affected

groundwater will be used as a source of drinking water in the foreseeable future. Other designated beneficial uses of impacted groundwater are not threatened, and it is highly unlikely that they will be, considering these factors in the context of the site setting.

Rationale for Closure under the Policy

- General Criteria: The case does not meet all eight Policy general criteria. Free product has not been removed to the maximum extent practicable.
- Groundwater Specific Criteria: The case does not meet Policy criteria because recoverable free product remains.
- Vapor Intrusion to Indoor Air: The case meets Policy Criterion 2a by Scenario 3b. The maximum benzene concentration in groundwater is less than 1,000 µg/L. The minimum depth to groundwater is greater than 10 feet, overlain by soil containing less than 100 mg/kg of TPH. In addition, a site-specific risk assessment of potential exposure to petroleum constituents as a result of vapor intrusion [Soil Vapor Investigation Report, Vapor Intrusion Evaluation, and Request for Closure, February 18, 2014] found that maximum concentrations of petroleum constituents remaining in soil and groundwater will have no significant risk of adversely affecting human health.
- Direct Contact and Outdoor Air Exposure: The case meets Policy Criterion 3a. Maximum concentrations in soil are less than those in Policy Table 1 for Commercial/Industrial use, and the concentration limits for a Utility Worker are not exceeded. There are no soil sample results in the case record for naphthalene. However, the relative concentration of naphthalene in soil can be conservatively estimated using the published relative concentrations of naphthalene and benzene in gasoline. Taken from Potter and Simmons (1998), gasoline mixtures contain approximately 2 percent benzene and 0.25 percent naphthalene. Therefore, benzene can be used as a surrogate for naphthalene concentrations with a safety factor of eight. Benzene concentrations from the Site are below the naphthalene thresholds in Policy Table 1. Therefore, the estimated naphthalene concentrations meet the thresholds in Table 1 and the Policy criteria for direct contact by a factor of eight. It is highly unlikely that naphthalene concentrations in the soil, if any, exceed the threshold.

Objections to Closure and Responses

The Regional Water Board objects to UST case closure (July 19, 2013 letter) because:

- Free product has not been removed to the maximum extent practicable since it reappeared in two wells after one to two years.
  RESPONSE: Agree. There are multiple off-the-shelf automated free product recovery technologies that are available to recover free product.
- The case does not clearly meet the Policy criteria with respect to vapor intrusion to indoor air.
  RESPONSE: The case meets the Policy criteria with respect to vapor intrusion to indoor air because diesel and fuel oil are semi volatile compounds and do not pose a significant vapor intrusion threat.

Recommendation
The Fund staff recommends evaluating more effective free product removal technologies at the Site.

Original signed by 03/24/14

James Young, RCE Date
Water Resources Control Engineer
Technical Review Unit
916-341-7373

Original signed by 03/25/14

Bob Trommer, CHG Date
Senior Engineering Geologist
Chief, Technical Review Unit
916-341-5684

ATTACHMENT 1: COMPLIANCE WITH STATE WATER BOARD POLICIES AND STATE LAW

The case complies with the State Water Resources Control Board policies and state law. Section 25296.10 of the Health and Safety Code requires that sites be cleaned up to protect human health, safety, and the environment. Based on available information, any residual petroleum constituents at the Site do not pose significant risk to human health, safety, or the environment.

The case complies with the requirements of the Low-Threat Underground Storage Tank (UST) Case Closure Policy as described below.[1]

Is corrective action consistent with Chapter 6.7 of the Health and Safety Code and implementing regulations? The corrective action provisions contained in Chapter 6.7 of the Health and Safety Code and the implementing regulations govern the entire corrective action process at leaking UST sites. If it is determined, at any stage in the corrective action process, that UST site closure is appropriate, further compliance with corrective action requirements is not necessary. Corrective action at this site has been consistent with Chapter 6.7 of the Health and Safety Code and implementing regulations and, since this case meets applicable case-closure requirements, further corrective action is not necessary, unless the activity is necessary for case closure.	☒ Yes ☐ No
Have waste discharge requirements or any other orders issued pursuant to Division 7 of the Water Code been issued at this case?	☐ Yes ☒ No
If so, was the corrective action performed consistent with any order?	☐ Yes ☐ No ☒ NA
<u>General Criteria</u> General criteria that must be satisfied by all candidate sites:	
Is the unauthorized release located within the service area of a public water system?	☒ Yes ☐ No
Does the unauthorized release consist only of petroleum?	☒ Yes ☐ No
Has the unauthorized ("primary") release from the UST system been stopped?	☒ Yes ☐ No
Has free product been removed to the maximum extent practicable?	☐ Yes ☒ No ☐ NA
Has a conceptual site model that assesses the nature, extent, and mobility of the release been developed?	☒ Yes ☐ No

[1] Refer to the Low-Threat Underground Storage Tank Case Closure Policy for closure criteria for low-threat petroleum UST sites.
http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2012/rs2012_0016atta.pdf

Has secondary source been removed to the extent practicable?	☒ Yes ☐ No
Has soil or groundwater been tested for MTBE and results reported in accordance with Health and Safety Code Section 25296.15?	☒ Yes ☐ No ☐ NA
Nuisance as defined by Water Code section 13050 does not exist at the Site?	☒ Yes ☐ No
Are there unique site attributes or site-specific conditions that demonstrably increase the risk associated with residual petroleum constituents?	☐ Yes ☒ No
Media-Specific Criteria Candidate sites must satisfy all three of these media-specific criteria: **1. Groundwater:** To satisfy the media-specific criteria for groundwater, the contaminant plume that exceeds water quality objectives must be stable or decreasing in areal extent, and meet all of the additional characteristics of one of the five classes of sites: **Is the contaminant plume that exceeds water quality objectives stable or decreasing in areal extent?**	☒ Yes ☐ No ☐ NA
Does the contaminant plume that exceeds water quality objectives meet all of the additional characteristics of one of the five classes of sites? If YES, check applicable class: ☐ **1** ☐ **2** ☐ **3** ☐ **4** ☐ **5**	☐ Yes ☒ No ☐ NA
For sites with releases that have not affected groundwater, do mobile constituents (leachate, vapors, or light non-aqueous phase liquids) contain sufficient mobile constituents to cause groundwater to exceed the groundwater criteria?	☐ Yes ☐ No ☒ NA
2. Petroleum Vapor Intrusion to Indoor Air: The site is considered low-threat for vapor intrusion to indoor air if site-specific conditions satisfy all of the characteristics of one of the three classes of sites (a through c) or if the exception for active commercial fueling facilities applies. **Is the Site an active commercial petroleum fueling facility?** Exception: Satisfaction of the media-specific criteria for petroleum vapor intrusion to indoor air is not required at active commercial petroleum fueling facilities, except in cases where release characteristics can be reasonably believed to pose an unacceptable health risk.	☐ Yes ☒ No
a. Do site-specific conditions at the release site satisfy all of the applicable characteristics and criteria of scenarios 1 through 3 or all of the applicable characteristics and criteria of scenario 4? If YES, check applicable scenarios: ☐ **1** ☐ **2** ☒ **3** ☐ **4**	☒Yes ☐ No ☐ NA

b. Has a site-specific risk assessment for the vapor intrusion pathway been conducted and demonstrates that human health is protected to the satisfaction of the regulatory agency?	☒ Yes ☐ No ☐ NA
c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, has the regulatory agency determined that petroleum vapors migrating from soil or groundwater will have no significant risk of adversely affecting human health?	☐ Yes ☐ No ☒ NA
3. Direct Contact and Outdoor Air Exposure: The Site is considered low-threat for direct contact and outdoor air exposure if site-specific conditions satisfy one of the three classes of sites (a through c).	
a. Are maximum concentrations of petroleum constituents in soil less than or equal to those listed in Table 1 for the specified depth below ground surface (bgs)?	☒ Yes ☐ No ☐ NA
b. Are maximum concentrations of petroleum constituents in soil less than levels that a site specific risk assessment demonstrates will have no significant risk of adversely affecting human health?	☐ Yes ☐ No ☒ NA
c. As a result of controlling exposure through the use of mitigation measures or through the use of institutional or engineering controls, has the regulatory agency determined that the concentrations of petroleum constituents in soil will have no significant risk of adversely affecting human health?	☐ Yes ☐ No ☒ NA

ATTACHMENT 2: SUMMARY OF BASIC CASE INFORMATION (Conceptual Site Model)

Site Location/History

- This case is located on the northwest corner of the intersection of Whittier Drive and Wilshire Boulevard, and is near the west boundary of the El Rodeo School, adjacent to a multi-story school building.
- The Site is approximately 7.5 acres, bounded on the north and west by golf course, and south and east by school buildings.
- Site maps showing the location of the former USTs, monitoring wells, groundwater level contours and petroleum constituents concentrations is provided at the end of this document (Iris Environmental, January 2014).
- Nature of Contaminants of Concern: Petroleum hydrocarbons only.
- Source: UST system.
- Date reported: February 2007.
- Status of Release: USTs removed.

Tank Information

Tank No.	Size in Gallons	Contents	Closed in Place/ Removed/Active	Date
1	2,000	Diesel	Removed	August 1998
2	4,000	Fuel Oil	Removed	July 2008

Receptors

- GW Basin: Coastal Plain of Los Angeles – Santa Monica.
- Beneficial Uses: Los Angeles Regional Water Quality Control Board (Regional Water Board) Basin Plan lists municipal, industrial service, industrial process and agriculture water supply
- Land Use Designation: Aerial photograph available on GeoTracker indicates mixed residential and commercial land use in the vicinity of the Site.
- Public Water System: City of Beverly Hills.
- Water District: Metropolitan Water District of Southern California.
- Distance to Nearest Supply Well: According to data available in GeoTracker, there are no public supply wells regulated by the California Department of Public Health within 1,000 feet of the defined plume boundary. No other water supply wells were identified within 1,000 feet of the defined plume boundary in the files reviewed.
- Distance to Nearest Surface Water: There is no identified surface water within 1,000 feet of the defined plume boundary.

Geology/Hydrogeology

- Stratigraphy: The Site is underlain by interbedded silts and clays with sand.
- Maximum Sample Depth: 40 feet below ground surface (bgs).
- Minimum Groundwater Depth: 16.02 feet bgs at monitoring well MW-8.
- Maximum Groundwater Depth: 40.10 feet bgs at monitoring well MW-5.
- Current Average Depth to Groundwater: Approximately 26 feet bgs on November 11, 2013.
- Saturated Zones(s) Studied: Approximately 16 to 40 feet bgs.
- Appropriate Screen Interval: Yes.
- Groundwater Flow Direction: East with an average gradient of 0.009 feet/foot (November 2013).

Monitoring Well Information

Well Designation	Date Installed	Screen Interval (feet bgs)	Depth to Water (feet bgs) (11/11/2013)
MW-2	August 2008	20 – 40	27.77
MW-3	August 2008	20 – 40	27.89
MW-4	August 2008	20 – 40	26.72
MW-5R	March 2010	15 – 30	28.21*
MW-6	September 2009	20 – 40	NM
MW-7	September 2009	20 – 40	24.21
MW-8	September 2009	10 – 30	20.70
PR-1	September 2009	15 – 30	27.30**
Sump	July 2008	19 – 29	26.95***

*: 1.86 feet of free product reported.
**: 0.60 feet of free product reported.
***: 0.10 feet of free product reported.
NM: Not measured

Remediation Summary

- Free Product: Free product removal began in November 2008. As of November 11, 2013, a total of approximately 57.5 gallons of free product were removed. On November 11, 2013, 1.86 feet of free product were reported in well MW-5R.
- Soil Excavation: Approximately 750 tons of impacted soil were excavated and disposed offsite in 2008 during the removal of the 4000-gallon fuel oil UST. Excavation was conducted to a total depth of 25 feet below surface.
- In-Situ Soil/Groundwater Remediation: None reported.

Most Recent Concentrations of Petroleum Constituents in Soil*

Constituent	Maximum 0-5 feet bgs [mg/kg (date) sample-depth]	Maximum 5-10 feet bgs [mg/kg (date) sample-depth]
Benzene	<2.0 (03/18/08) 5’	<2.0 (03/18/08) 6’
Ethylbenzene	<2.0 (03/18/08) 5’	<2.0 (03/18/08) 6’
Naphthalene	NA	NA
PAHs	NA	NA

*: Soil was excavated to 25 feet below surface at the source area during the July 2008 UST removal.
NA: Not Analyzed, Not Applicable or Data Not Available
mg/kg: Milligrams per kilogram, parts per million
<: Not detected at or above stated reporting limit
PAHs: Polycyclic aromatic hydrocarbons

Most Recent Concentrations of Petroleum Constituents in Groundwater

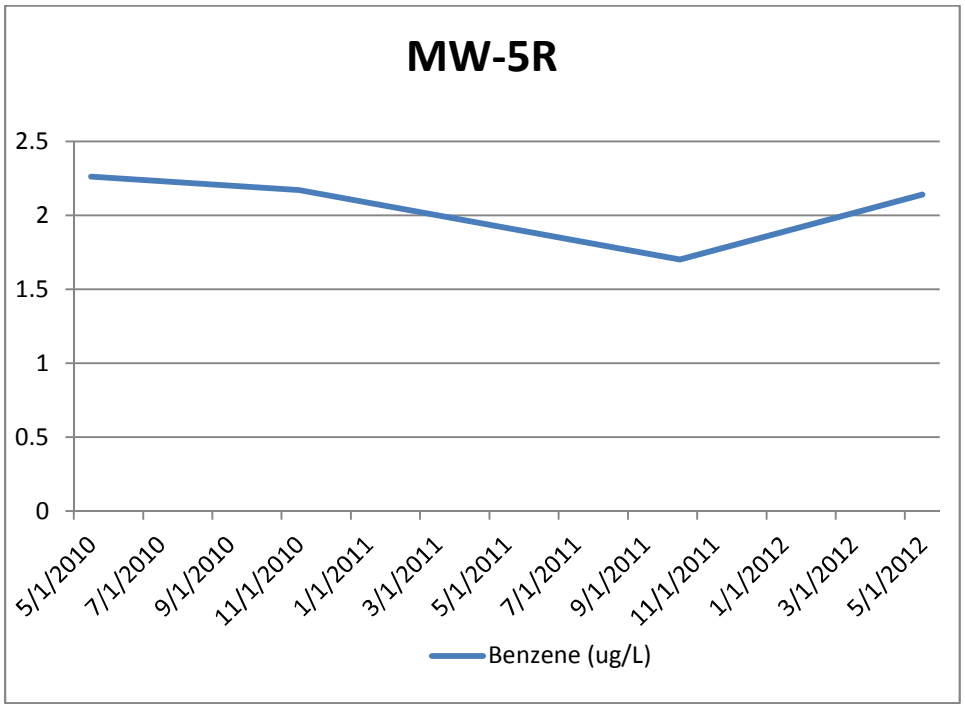
Sample	Sample Date	TPHg (µg/L)	TPHd (µg/L)	TPH oil (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)
MW-2	11/11/13	<100	<0.50	<5.0	<1	<1	<1	<1
MW-3	11/11/13	<100	<0.50	<5.0	<1	<1	<1	<1
MW-4	10/02/11	182	3.64	3.3	<1	<1	<1	<1
MW-5R*	05/19/12	1,150	4.86	<5.0	**2.14**	<1	2.38	2.39
MW-6	05/19/12	<100	<0.50	<5.0	<1	<1	<1	<1
MW-7	11/11/13	<100	<0.50	<5.0	<1	<1	<1	<1
MW-8	11/11/13	<100	<0.50	<5.0	<1	<1	<1	<1
WQOs		**--**	**--**	**--**	**1**	**150**	**300**	**1,750**

µg/L: Micrograms per liter, parts per billion
<: Not detected at or above stated reporting limit
TPHg: Total petroleum hydrocarbons as gasoline
TPHd: Total petroleum hydrocarbons as diesel
MTBE: Methyl tert-butyl ether
TBA: Tert-butyl alcohol
*: On November 11, 2013, 1.86 feet of free product were reported in well MW-5R.
WQOs: Water Quality Objectives, Regional Water Board Basin Plan
--: Regional Water Board Basin Plan does not have a numeric water quality objective for TPHg.
[a]: Secondary maximum contaminant level (MCL)
[b]: California Department of Public Health, Response Level

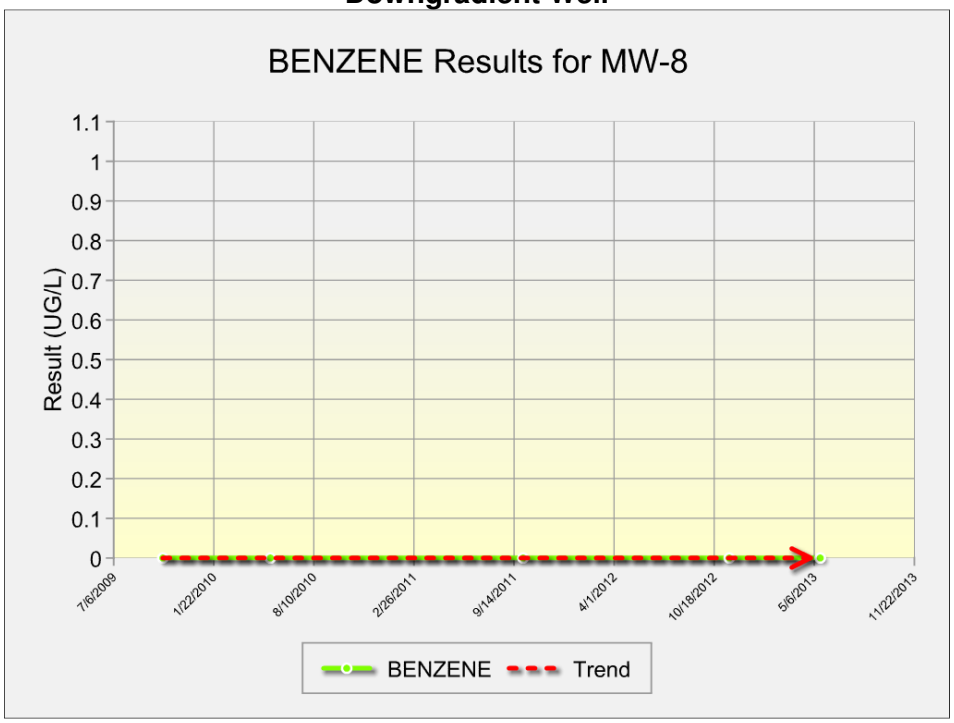
Groundwater Trends

- Since 2008, nine groundwater monitoring and extraction wells have been installed and irregularly monitored. Benzene trends in the source area well MW-5R and downgradient well MW-8 are show below:

Source Area Well



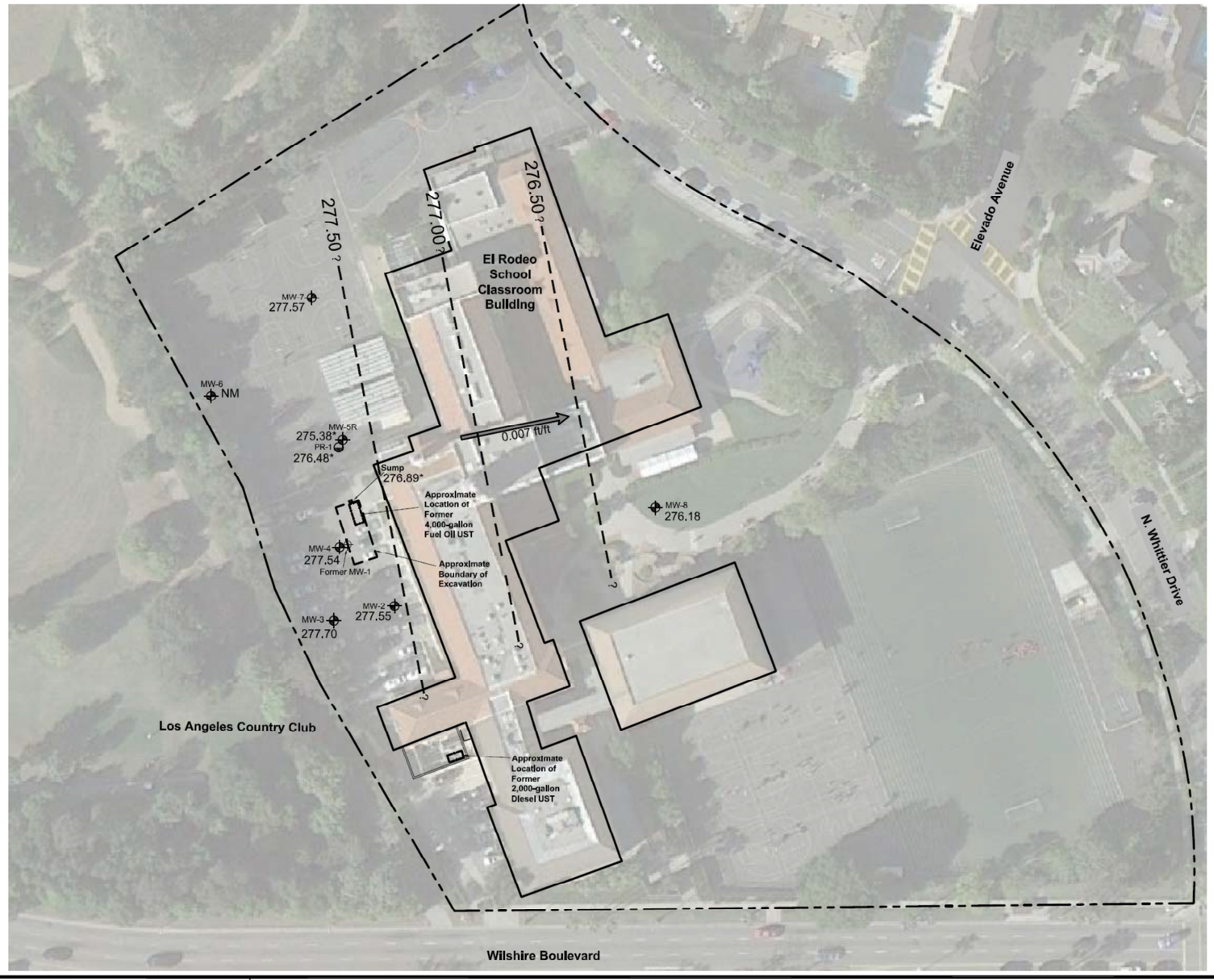
Downgradient Well



Evaluation of Current Risk

- Estimate of Hydrocarbon Mass in Soil: None reported.
- Soil/Groundwater tested for methyl tert-butyl ether (MTBE): Yes.
- Oxygen Concentrations in Soil Vapor: 9.07% to 21.5% (Iris Environmental, February 18, 2014).
- Plume Length: <100 feet.
- Plume Stable or Decreasing: Yes.
- Contaminated Zone(s) Used for Drinking Water: No.
- Groundwater Risk from Residual Petroleum Hydrocarbons: The case does not meet Policy criteria because recoverable free product remains.
- Indoor Vapor Risk from Residual Petroleum Hydrocarbons: The case meets Policy Criterion 2a by Scenario 3b. The maximum benzene concentration in groundwater is less than 1,000 µg/L. The minimum depth to groundwater is greater than 10 feet, overlain by soil containing less than 100 mg/kg of TPH. In addition, a site-specific risk assessment of potential exposure to petroleum constituents as a result of vapor intrusion [Soil Vapor Investigation Report, Vapor Intrusion Evaluation, and Request for Closure, February 18, 2014] found that maximum concentrations of petroleum constituents remaining in soil and groundwater will have no significant risk of adversely affecting human health.
- Direct Contact Risk from Residual Petroleum Hydrocarbons: The case meets Policy Criterion 3a. Maximum concentrations in soil are less than those in Policy Table 1 for Commercial/Industrial use, and the concentration limits for a Utility Worker are not exceeded. There are no soil sample results in the case record for naphthalene. However, the relative concentration of naphthalene in soil can be conservatively estimated using the published relative concentrations of naphthalene and benzene in gasoline. Taken from Potter and Simmons (1998), gasoline mixtures contain approximately 2 percent benzene and 0.25 percent naphthalene. Therefore, benzene can be used as a surrogate for

naphthalene concentrations with a safety factor of eight. Benzene concentrations from the Site are below the naphthalene thresholds in Policy Table 1. Therefore, the estimated naphthalene concentrations meet the thresholds in Table 1 and the Policy criteria for direct contact by a factor of eight. It is highly unlikely that naphthalene concentrations in the soil, if any, exceed the threshold.



EXPLANATION:

- Groundwater monitoring well
- Abandoned groundwater monitoring well
- Product recovery well
- Sump
- Property boundary
- 277.70 — Groundwater elevation in feet above mean sea level (msl)
- Interpreted groundwater elevation contour
- Interpreted groundwater flow direction
- NM — Not measured

Notes:

1. During the March 2008 soil investigation, Iris Environmental located the existing on-site well and designated it as MW-1. This well was not installed by Iris Environmental, but to facilitate the excavation activities surrounding the former UST, Iris Environmental abandoned this well on July 14, 2008. No survey data or well construction data for Well MW-1 was available.
2. Wells MW-2 through MW-5 were installed on August 11, 2008, wells MW-6, MW-7, and PR-1 were installed on September 26, 2009, MW-8 was installed on September 28, 2009, and MW-5R was installed on March 30, 2010 by Iris Environmental.
3. Iris Environmental abandoned and replaced well MW-5 on March 30, 2010.
4. All wells were surveyed by KDM Meridian to common Los Angeles City Surveyor's Bench Mark 12810/ elevation 314.379 feet vertical datum NGVD-29 in feet, horizontal datum CCS-83, zone V(NSRS 2007) In feet.
5. * Groundwater elevation not used in contouring. The sump and PR-1 are primarily used for product extraction. The sump, PR-1, and MW-5R are screened within the product contaminated zone (ie; 15-30 feet) which is shallower than the wells.

N

0 — 70
SCALE IN FEET

Source: Base map from Google Earth, March 8, 2011

IRIS ENVIRONMENTAL
2361 Campus Drive, Suite 250
Irvine, California 92612
(949)724-8900

Groundwater Elevation Map
Second Semi-Annual 2013 Event, December, 2013
El Rodeo School
605 N. Whittier Drive, Beverly Hills, California

Figure **3a**

Drafter: EC | Date: 01/13/14 | Contract Number: 07-564P3

MW-7

	10/12/2009	5/15/2010	11/20/2010	10/2/2011	5/19/2012	11/17/2012	5/18/2013	11/11/2013
BTEX	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
MTBE	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
DIPE	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
ETBE	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
TAME	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
TBA	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
Naphthalene	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1

MW-5 / MW-5R

		MW-5	MW-5R			
		8/22/2008	5/15/2010	11/20/2010	10/2/2011	5/19/2012
BTEX	Benzene	2.53	2.36	2.17	1.70	2.14
	Toluene	0.80J	0.810J	ND<1	ND<1	ND<1
	Ethylbenzene	2.45	2.12	2.41	1.46	2.38
	m,p-Xylene	0.65J	0.600J	ND<1	ND<1	ND<1
	o-Xylene	2.89	2.61	1.82	2.10	2.39
MTBE		ND<1	ND<1	ND<1	ND<1	ND<1
DIPE		5.47	6.33	6.17	4.13	ND<1
ETBE		ND<1	ND<1	ND<1	ND<1	ND<1
TAME		ND<1	ND<1	ND<1	ND<1	ND<1
TBA		ND<5	ND<5	ND<5	ND<5	ND<5
Naphthalene		107	84.0	21.3	57.1	148

PR-1

		10/12/2009
BTEX	Benzene	2.30
	Toluene	0.690J
	Ethylbenzene	2.68
	m,p-Xylene	0.640J
	o-Xylene	2.63
MTBE		ND<1
DIPE		22.8
ETBE		ND<1
TAME		ND<1
TBA		ND<5
Naphthalene		116

MW-6

	10/12/2009	5/15/2010	11/20/2010	10/2/2011	5/19/2012
BTEX	ND<1	ND<1	ND<1	ND<1	ND<1
MTBE	ND<1	ND<1	ND<1	ND<1	ND<1
DIPE	ND<1	ND<1	ND<1	ND<1	ND<1
ETBE	ND<1	ND<1	ND<1	ND<1	ND<1
TAME	ND<1	ND<1	ND<1	ND<1	ND<1
TBA	ND<5	ND<5	ND<5	ND<5	ND<5
Naphthalene	ND<1	ND<1	ND<1	ND<1	ND<1

MW-8

	10/12/2009	5/15/2010	11/20/2010	10/2/2011	5/19/2012	11/17/2012	5/18/2013	11/11/2013
BTEX	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
MTBE	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
DIPE	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
ETBE	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
TAME	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
TBA	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
Naphthalene	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1

MW-4

	8/22/2008	11/24/2008	2/9/2009	5/16/2009	10/12/2009	5/15/2010	10/2/2011
BTEX	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
MTBE	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
DIPE	ND<1	ND<1	ND<1	ND<1	1.83	ND<1	ND<1
ETBE	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
TAME	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
TBA	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
Naphthalene	ND<1	ND<1	3.46	8.52	1.60	2.01	2.13

MW-2

	8/22/2008	11/24/2008	2/9/2009	5/16/2009	10/12/2009	5/15/2010	11/20/2010	10/2/2011	5/19/2012	11/17/2012	5/18/2013	11/11/2013
BTEX	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
MTBE	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
DIPE	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
ETBE	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
TAME	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
TBA	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
Naphthalene	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1

MW-3

	8/22/2008	11/24/2008	2/9/2009	5/16/2009	10/12/2009	5/15/2010	11/20/2010	10/2/2011	5/19/2012	11/17/2012	5/18/2013	11/11/2013
BTEX	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
MTBE	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
DIPE	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
ETBE	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
TAME	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1
TBA	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
Naphthalene	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1	ND<1

EXPLANATION:

- Groundwater monitoring well
- Abandoned groundwater monitoring well
- Product recovery well
- Sump
- Property boundary
- ND< — Not detected above laboratory reporting limits listed
- J — Concentration reported is between laboratory method detection limit and report limit listed
- BTEX — Benzene, Toluene, Ethylbenzene, Total Xylenes (m,p-xylene + o-xylene)
- MTBE — Methyl Tert Butyl Ether
- DIPE — DI-Isopropyl Ether
- ETBE — Ethyl Tert Butyl Ether
- TAME — Tertiary-Amyl Methyl Ether
- TBA — Tert-Butyl Alcohol
- NS — Not sampled

Notes:

1. All units are in micrograms per liter, µg/l
2. During the March 2008 soil investigation, Iris Environmental located the existing on-site well and designated it as MW-1. This well was not installed by Iris Environmental, but to facilitate the excavation activities surrounding the former UST, Iris Environmental abandoned this well on July 14, 2008. No survey data or well construction data for Well MW-1 was available.
3. Wells MW-2 through MW-5 were installed on August 11, 2008, wells MW-6, MW-7, and PR-1 were installed on September 26, 2009, MW-8 was installed on September 28, 2009, and MW-5R was installed on March 30, 2010 by Iris Environmental.
4. Iris Environmental abandoned and replaced well MW-5 on March 30, 2010.

N

0 70

SCALE IN FEET

Source: Base map from Google Earth, March 8, 2011

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Groundwater Analytical Results - Volatile Organic Compounds, Historical Summary
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Beverly Hills, California

Figure **4**

Drafter: EC | Date: 01/07/14 | Contract Number: 07-564P3